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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,546	08/23/2001	Akio Konishi	VX012340	9184
21369	7590	02/10/2004	EXAMINER	
VARNDELL & VARNDELL, PLLC 106-A S. COLUMBUS ST. ALEXANDRIA, VA 22314			KASTLER, SCOTT R	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 02/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/934,546	Applicant(s) KONISHI, AKIO	
	Examiner Scott Kastler	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2004 and 04 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10 and 12-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10 and 12-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1742

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by the article by Satoh et al, titled "Application of Plasma Sprayed Ceramic Coatings to the Base Materials of the Rotating Disk in the Centrifugal Atomization Process" (hereafter referred to as Satoh et al). Satoh et al teaches an apparatus (see Fig. 1 for example, where the disk and stem are shown to be of one piece) including a rotating disk, a pouring means for molten metal including a pouring spout and funnel, where the disk includes an integral stem and a uniform structure of silicon nitride (see Table 1, where the disk material in example 4 is of silicon nitride), thereby showing all aspects of the above claims since the "comprising" language of the above claims allows for additional unnamed components to be present in the apparatus, including the sprayed coating disclosed by Satoh et al.

Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by either of Karol or Thiemeier. Both of Karol (the rotating disk and integral stem (76,82) of figure 4 for example) and Thiemeier (the unitary "disk" 1 and stem 2) teach a unitary disk and stem apparatus meeting all properly limiting aspects of the above claims since the statements that the apparatus rotate, or that the apparatus be employed for fabricating a thermoelectric material are limitations dealing with the manner or method of use of the claimed apparatus as newly amended, and it has been

Art Unit: 1742

well settled that the manner or method of use of an apparatus cannot be relied upon to fairly further limit claims to the apparatus itself. see MPEP 2114 and *In re Casey*, 152 USPQ 235.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Satoh et al in view of Hogg. . As applied to claim 12 above, Satoh et al shows all aspects of the above claim except to specifically teach that the disk is made of β -sialon type silicon nitride material, although, as stated with respect to claim 1 above Satoh et al allows for the use of silicon nitride containing material in general. Hogg teaches that it was well known in the metallurgical arts at the time the invention was made to construct metallurgical components which are made of silicon nitride materials of β -sialon type silicon nitride containing material, because of the superior properties exhibited by these materials (see col. 1 lines 5-42 for example). Because the improved properties described by Hogg would also be desirable in the rotating disk made of silicon nitride materials of Satoh et al, motivation to construct the disk of Satoh et al of the β -sialon type silicon nitride material described by Hogg, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Art Unit: 1742

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thiemeier in view of Hogg. As applied to claim 10 above, Thiemeier shows all aspects of the above claim except to specifically teach that the valve is made of β -sialon type silicon nitride material, although, as stated with respect to claim 10 above Thiemeier allows for the use of silicon nitride containing material in general. Hogg teaches that it was well known in the art at the time the invention was made to construct components which are made of silicon nitride materials of β -sialon type silicon nitride containing material, because of the superior properties exhibited by these materials (see col. 1 lines 5-42 for example). Because the improved properties described by Hogg would also be desirable in the valve made of silicon nitride materials of Thiemeier, motivation to construct the disk of Thiemeier of the β -sialon type silicon nitride material described by Hogg, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Response to Arguments

Applicant's arguments that the specification as originally filed properly support the claim limitation that the disk and stem be of a uniform integral structure because drawing figure 4A generally depicts a disk and stem in a single piece, and that even though this is not specifically stated in the specification, the figure alone would reasonably convey to one of ordinary skill in the art that the disk and stem in this embodiment are of one piece (see pages 6-8 of the argument filed on 12-4-2003) are convincing to overcome the rejection of claims 10-15 of the previous office action under 35 USC 112 first paragraph. The rejection on these grounds of these claims

Art Unit: 1742

has been withdrawn. Further, the objection to the drawings as not fairly showing this feature is also withdrawn.

Applicant's argument that Satoh et al does not fairly teach a rotating disk of uniform integral structure as described in instant claims 12-15 because the disk and stem in figure 1 of Satoh et al is only a general sketch of the apparatus is not persuasive for the same reasons that applicant has advanced in asserting basis for this limitation from figure 4A of the original specification. Both figure 4A of the original specification and figure 1 of Satoh et al show a rotating disk and stem depicted as a single piece. If one of ordinary skill in the art at the time the invention was made could reasonably recognize that figure 4A of the instant specification describes a disk and stem of a single piece, then the figure 1 of Satoh et al would also reasonably convey that the disk and stem of Satoh et al are of a single piece. Further, it has been well settled that drawings in the prior art can be relied upon to show claimed structure. See MPEP 2125.

Applicant's amendment to claim 10 has overcome the previous rejection of this claim as being anticipated by Satoh et al, but has necessitated the new art rejections of this claim over either of Thiemeier or Karol as described above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

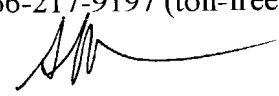
Art Unit: 1742

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Kastler whose telephone number is (571) 272-1243. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Scott Kastler
Primary Examiner
Art Unit 1742

sk